

BLOODBORNE PATHOGEN EXPOSURE IN NON-HOSPITAL BASED NURSES

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INTRODUCTION

- 50% of all healthcare workers (HCWs) practice in the non-hospital setting (N=5.7 million)
- Nearly 1 million are non-hospital based RNs
- Bloodborne pathogen (BBP) risk for non-hospital HCWs, including RNs, is not well characterized
- Risk assessment is a necessary first step in defining risk and developing risk reduction strategies

STUDY DESIGN

- A mailed risk assessment survey was administered to a sample (N=3000) of nurses recruited from the New York State Public Employee Federation and the New York State Nurses' Association
- Most were unionized, public sector RN's, working in state prisons, psychiatric hospitals, institutions for mentally retarded, nursing homes, and with troubled youth, and in outpatient clinics as well as some doctors' offices, home healthcare, and public health clinics.

RESULTS

Response Rate: 44% (N=1156)

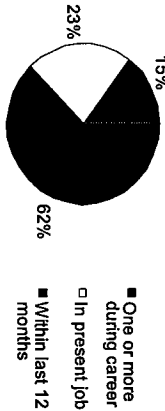
Demographics

- Gender:
 - Female: 87%
- Age: 48 years (mean)
- Tenure, present job: 11 years (mean)
- Agency characteristics:
 - 33% Had 100 employees or less
 - 60% Unaffiliated with a hospital
 - 73% Unaffiliated with a medical center

Risk Factors

1. HBV vaccine history:
 - 64% Received all three doses
 - 4% Less than three doses
 - 4% No vaccine (HBV Antibody Positive)
2. Infection Control Training History, previous 12 months:
 - 60% Received two or more hours
 - 9% No training
3. Activities with Potential for Exposure:
 - 82% Use needles
 - 60% Handle sharps containers
 - 51% Manage body fluids
 - 44% Dispose of contaminated waste
4. Suboptimal compliance with safe work practices (Figure 1) and exposure incidents not uncommon (Figure 2)

Figure 2. Needle Stick Exposure History

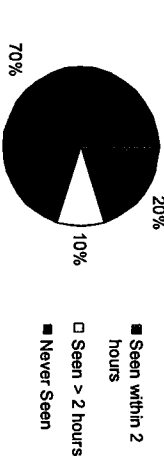


- Extrapolated out = 145,000 non-hospital RN's might have at least one needle stick per year
- Safety devices
 - 43% reported using safety device during most recent exposure
 - Device involved:
 - 10% Retractable needle
 - 12% Shielded needle
 - 10% Safety phlebotomy
 - 80% stated they received training on device

Exposure Reporting Practices

- 13% encouraged to report only significant BBP exposures
- Reluctance to Report Related to:
 - 77% No time/no busy
 - 46% Fear of 'getting in trouble'
 - 44% Wanted to keep incident confidential
- Employee Health Services Availability
 - Employee Health/Infection Control Practitioner
 - 61% On site
 - 70% At headquarters
 - 20% No access

Figure 3: Post-Exposure Management of Reported Needle Sticks



- Post-Exposure Prophylaxis (PEP)
 - 21% Received post-exposure care and counseling
 - 4% Referred to an HIV specialist
 - 27% Overall PEP experience reported as fair or poor

Significant Correlates of Exposure

- Individual Factors
 - Poor compliance with Standard Precautions
 - Frequent handling of sharps
 - Poor job satisfaction
 - Reluctance to report
- Organizational Factors
 - Poor safety climate
 - Limited access to employee health/infection control
 - Limited training
 - High rate of environmental bothers
 - Type of facility (private practice = lower risk)
 - Lack of availability of safety devices
- Needle Stick Incidence Rate
 - 2.2/100 person years

Limitations

- Sample from only one state: New York - generally viewed as a proactive state
- Less than 50% response rate (potential for responder bias)
- Participants recruited from two agencies that were un/under-representative organizations
- Union membership could lead to more proactive workplaces
- Mainly public sector employees = covered by public employee OSHA plan



CONCLUSIONS

- Non-hospital RNs perform exposure-prone activities
- Exposures not uncommon
- Many exposures not prevented by safety devices, even with training
- Exposures related to limited training, poor access to (C/E)employee health, safety climate, lack of safety devices
- Under-reporting high
- Risk compared to hospital RNs - not that different

OPPORTUNITIES FOR IMPROVEMENT

- Updated guidelines for both administration and workers
- Effective product evaluation and training
- Access to safety devices that are effective
- Re-evaluation of all infection control and BBP training methods and effectiveness
- Timely and effective post-exposure care
- Concerted effort to improve reporting of needle stick exposures

Funding Provided by the National Institute for Occupational Safety and Health/Centers for Disease Control and Prevention.

Figure 1. Compliance with Standard Precautions

